



Linda Toivio

Product Service Systems design in the age of sustainability

A Case Study of City Car Club

Helsinki Metropolia University of Applied Sciences
Bachelor of Business Administrations
European Management
Thesis
8.5.2012

Author(s) Title Number of Pages Date	Linda Toivio Product Service Systems design in the age of sustainability A Case Study of City Car Club 37 8.5.2012
Degree	Bachelor of Business Administrations
Degree Programme	European Management
Specialisation	
Instructor(s)	Krystal Sirota, Lecturer
<p>The purpose of this thesis is to examine how companies are addressing the growing phenomenon of sustainability and how they are adjusting their strategies to differentiate in the mainstream green markets. The research was moreover conducted to gain a deeper understanding of the environmental benefits of the growing service industry and such new business models as Product Service Systems (PSS). To fulfil the objective of this study, two research questions were formulated to guide the research and a comparative case study was conducted with a company that notably is the only representative of PSS currently in Finland. Interview with the CEO of City Car Club gave practical insight into the processes and strategies of City Car Club in implementing green practices into their business.</p> <p>The results indicated that environmentally friendliness should not be marketed, as it tends to be associated with unruly marketing practices and therefore raise scepticism among consumers. As a contrary, the results showed that PSS companies should highlight their other assets such as quality and aim at creating value with their customer in use, thus creating differentiated and individual experiences to serve heightened customers expectations of co-creation. Furthermore, the findings show that customers valued access and affordability over the green benefits that were already seen the fundamental benefit of a car sharing PSS. Unlike many other green companies, City Car Club has not been able to pull out of the niche markets and the findings suggest that they should seek for standardization through credible sources such as by improving their co-operation with HSL or even through government.</p>	
Keywords	Green marketing, Sustainability marketing, Marketing 3.0, co-creation, collaborative marketing, Product Service Systems (PSS)

Contents

LIST OF TABLES AND FIGURES.....	4
FIGURES	
TABLES	
APPENDIX LIST.....	5
APPENDIX I	
1 INTRODUCTION	6
2 LITERARY REVIEW	7
2.1 GREEN MARKETING REVOLUTION	7
2.2 DISTINCTION BETWEEN SUSTAINABILITY MARKETING AND GREEN MARKETING	8
2.3 SHADES OF GREEN SEGMENTS	10
2.4 MARKETING 3.0	12
2.5 FROM PRODUCTS TO SERVICES	13
2.6 FROM PRODUCTS TO EXPERIENCES AND SOLUTIONS – COLLABORATIVE MARKETING.....	15
2.7 PRODUCT SERVICE SYSTEMS (PSS)	16
3 RESEARCH QUESTIONS	19
3.1 RESEARCH QUESTIONS.....	19
4 METHODOLOGY	20
4.1 LITERARY RESEARCH.....	20
4.2 RESEARCH METHODOLOGY	20
4.3 RESEARCH PROBLEMS.....	20
4.4 DATA COLLECTION.....	21
5 EMPIRICAL DATA	22
5.1 CITY CAR CLUB.....	22
5.2 RQ1: WHAT ARE THE ATTITUDES OF CONSUMERS TOWARDS THE SHARING OR RENTING OF A GIVEN PRODUCT AS OPPOSED TO ACQUIRING OWNERSHIP OF IT?	23
5.3 RQ2: ARE ENVIRONMENTAL ISSUES EMBEDDED IN THE STRATEGY OF A PSS COMPANY? ARE THOSE APPROPRIATELY ADDRESSED ACCORDING TO THE GREEN MARKETING PRINCIPLES?	24
5.3.1 Savings of sharing compared to ownership.....	24
5.3.2 Segmentation of City Car Club.....	27
5.3.3 Elements of Green Marketing Strategy.....	29
6 FINDINGS AND RECOMMENDATIONS.....	31
6.1 RQ1: WHAT ARE THE ATTITUDES OF CONSUMERS TOWARDS THE SHARING OR RENTING OF A GIVEN PRODUCT AS OPPOSED TO ACQUIRING OWNERSHIP OF IT?	31
6.2 RQ2: ARE ENVIRONMENTAL ISSUES EMBEDDED IN THE STRATEGY OF A PSS COMPANY? ARE THOSE APPROPRIATELY ADDRESSED ACCORDING TO THE GREEN MARKETING PRINCIPLES?	31
7 CONCLUSION.....	33
8 REFERENCES.....	34
8.1 BOOKS.....	34
8.2 ARTICLES.....	34
8.3 WEBSITES.....	35
8.4 INTERVIEWS.....	35
9 APPENDIX I	36

List of Tables and Figures

Figures

Figure 2.3 The Market Segment Influence Chain 11

Figure 5.3.2 The Market Segment Influence Chain of CCC 27

Tables

Table 5.3.2 The Solution Map of City Car Club 28

Appendix List

Appendix I (2)

Interview Questions for City Car Club

36

1 Introduction

Growing consumerism and the traditional role of marketing as promoting physical ownership has led marketers and environmentalists to seek for alternative models to reverse the forces of materialism. Literary review first describes first signs of green marketing and builds its way from the early stages to a well established and broadly adopted marketing practices. Because of numerous unhealthy business attempts of riding on the waves of greenness, many of the past green marketing attempts have failed to prove authenticity of their claims. When governments implemented green measures as part of their policies, a thin line was drawn between green marketing and contemporary marketing, as environmental behaviour and green marketing became mainstream. As a natural path for the research, ways to differentiate from green mass marketing messages will be looked at and the growth of the service industry is discussed. Along the overview of the current literary available, the subjects of sustainability marketing, Marketing 3.0, co-creation and collaborative marketing will be touched upon. Finally a contemporary theory of Product Service Systems will be looked at; a phenomenon growingly also being referred to as collaborate consumption; that could potentially serve as a sustainable solution to ever-growing consumerism; stimulating a shift away from consumer ownership to company ownership.

With a case study, this thesis attempts to answer two questions. The first question is to find out what are the attitudes of consumers on sharing or borrowing as opposed to owning products. There was a gap in knowledge found in this matter according to the literary review. The second and a more prominent question is whether environmentally friendliness is only a fundamental value of a PSS or is it more appropriately addressed? The final analysis will critically evaluate and benchmark the practices of City Car Club in relation to the Literary Review and analyse whether those are natural outcomes of a car sharing PSS or signs of goodwill.

The base knowledge for this subject was created while studying in the University of Hertfordshire, where sustainability marketing was first outlined to the researcher. The motivation for this thesis subject therefore comes from the researchers personal interest in trying to explain and define current green marketing practises. This thesis on that account attempts to produce insight into some of the practises currently in use and gain insight into the motivations of implementing those practices.

2 Literary Review

This section serves as the base for the research and lays the background for the research question/s. Within the research for the literary review, research questions will be drawn out of theories that lack subsequent research. The literary review discusses the background of green marketing and makes a distinction between green marketing and sustainability marketing. It also discusses other relating theories that could possibly aid in formulating a differentiated green strategy. The study takes a more contemporary view as it takes a look at the most current phenomenons in marketing and introduces the theory of Product Service Systems (PSS).

2.1 Green marketing revolution

From the early 19th century signs of naturalism can already be detected. Those can be identified as the precursor of the green revolution. As the first sign of the modern environmentalism, Earth Day was held in 1970, in United States, with over 20 million participants worldwide. The purpose of Earth Day was to educate and raise the awareness among the general public of the price that the social industry was paying on the environment. In 1972, the problem got global attention, when the United Nations held a conference on Human Environment in Stockholm, Sweden. This event can be seen as the first step towards sustainability revolution. (Edwards, 2010: 12-16) 1980s recorded the first attempts of green marketing, when the matter was introduced to the industries (Peattie and Crane cited in Tantawi et al 2009: 2). Contrary to what had predicted, the new way of marketing did not quite succeed at the beginning. Marketers expectations backlashed as consumers were found cynical of the green practices and companies intentions. Peattie and Crane (2009: 189) have pointed out the following five marketing practices, which led to the early failure of green marketing during the 1990s:

1. *Greenspinning*: Using public relations to deny or discredit criticism against the products.
2. *Greenselling*: Boosting sales with adding a few green features to the products.
3. *Green harvesting*: Doing green marketing only for the sake of cost reductions.
4. *Entrepreneur marketing*: Developing innovative green products for marketing purposes without understanding what the consumers really want.
5. *Compliance marketing*: Simply complying with the set regulation without going further in their actions and at the same time promoting them as green.

In the late 1990s as consumerism was on the rise, scholars started to call for sustainability marketing (Charter and Polonsky, 1999). In their book "Sustainability Marketing" Belz & Peattie (2009: 30) highlight the importance of understanding that sustainability and marketing do not naturally walk hand in hand. Marketing in the capitalistic world was first created to promote consumerism and ownership of products, whereas with sustainability marketing particular solutions to combine consumerism and ownership in a sustainable manner are considered. Sustainability relies on principles that state problems being common and global, future needs are not sacrificed by current needs and attention is put on uneven equity division and poverty. The main value of sustainability is that every living creature should be treated equal. Contrary to what was feared in the 1970s, sustainable development did not mean zero growth agenda for companies, but it served as validation to the economy that the economic growth was not to become self-defeating and, therefore, cause more environmental and social crises. (Belz & Peattie, 2009: 31)

2.2 Distinction between Sustainability Marketing and Green Marketing

Sustainability Marketing takes a more holistic view as it addresses the "triple bottom line" (Belz & Peattie, 2009: 34). In other words, it covers social, economical as well as environmental issues (Belz & Peattie, 2009: 34). Green marketing on the other hand, which is also increasingly referred to as "sustainable branding" (Ottman, 2011), purely focuses on the environmental aspects of marketing (Belz & Peattie, 2009: 29). In the early stages of green marketing, the main focus was the problem of depletion of non-renewable resources and pollution. The focus later turned to the production-phase of green goods (e.g. taking environmental aspects into consideration while making the goods) and did not only cover packaging issues but the product itself. As green marketing was better established, practises focused also on the user-phase (product in use) and later post-use (after usage e.g. recycling) phase became more important. Further along the way green practices were broadened beyond the particular industries of which it was directly associated with, which were those that has an impact on the natural environment (e.g. oil, mining, chemistry and vehicles). Today companies producing consumer goods and service companies have introduced new business strategies (e.g. PSS, see page 15) based on green marketing principles. (Belz et al 2009: 30 & Ottman, 2011) The food sector in particular has encountered a significant increase in the market share of eco-labelled products (Rex & Baumann, 2007). Green

marketing has become a mainstream phenomenon as almost all companies have been introduced to it in some way, mostly through tougher government regulations, but also increasingly through their own initiative; heightened customer-expectation have driven companies to adopt environmental practices as part of their business (Belz & Peattie, 2009: 34).

Traditionally green products lacked the benefits of economies of scale and, as they often were made with special or new technologies, were punished with price premiums (Ottman, 2011). In the early years of green marketing, studies regularly reported a gap between the environmental consciousness and actual environmental behaviour. Some doubted whether a green consumer, such is willing to pay a premium price, even existed. As a result, it was stated that there is no demand for green products as long as the price of green products remains as high with a premium and as long as the majority of companies do not adopt green practices. (Belz & Peattie, 2009: 77) A common theory associated with this view of thinking is Ajzen's "Theory of Planned Behaviour". According to Ajzen's theory attitudes and perceived control determines the intention towards an act. (Rex & Baumann, 2007) When the Theory of Planned Behaviour is applied to green marketing context it can be said that the attitudes of consumers are enforced by empowering consumers and by giving them a sense of contribution to something often bigger and meaningful to them. It is therefore highly important that companies do not give false claims about their green activities and thus run the risk of jeopardizing their reputation. Unlike contemporary marketing, green marketing requires the adoption of two strategies (Ottman, 2011):

1. Developing products that are superior in quality, affordability, and accessibility, moreover, those products came with the lowest environmental impact.
2. Provide practical benefits while empowering and engaging consumers in a meaningful way and address a cause, social or environmental, important for them.

Due to advances in material and technology, eco products today are not only greener but also often work better and more efficiently than their contemporary brown counterparts (Ottman, 2011: 2). As the green markets mature, new rules of engaging customers seem to be the sustainable solution in the contemporary markets. Brands are becoming more alike, thus companies should drive for better customer

engagement in order to differentiate and create unique value. (Roberts & Alpert, 2010). Value is defined as the trade-off between the utility and perception of what is given and received (Woodruff, 1997). Engaging customers is ten times more effective in creating lasting relationships as television or print media as it creates word-of-mouth (WOM) (Kirby, 2006). Customer recommendations, on the other hand, have a strong correlation to long-term growth and profit (Roberts et al 2010). Many products do not have to be advertised at all as they make their way to the top of the influential shoppers list by solely on the power of word of mouth. Goodwill drives many companies today, as customers feel empowered by rewarding companies for their good deeds.

2.3 Shades of Green Segments

Today green consumers are far from a homogenous group (Kotler et al 2010: 161) and green consumerism is finely segmented (Ottman, 2011: 22). The green purchasing scenery has been led by a strong majority of a female population from the very beginning of the green consumer revolution in the 1970s. This has not been a downfall as women make the most brand purchasing decisions in the households and traditionally do most of the shopping. Additionally, polls show that women tend to benchmark their purchase decisions more heavily on social and environmental criteria than men do. (Ottman, 2011: 22) This insight suggests that the social value of a product seems important to buyers and therefore the opinions of others are important aspects in the buying decision process.

Kotler (et al 2010: 161-165) distinguishes four different consumer segments for green products and services: trendsetters, value-seekers, standard matchers and cautious buyers. Trendsetters as the early adopters form the most important segment for green marketers and are most likely to promote the product through WOM. Trendsetters are highly active and often tech-savvy consumers who keep blogs and other social sites online. Based on contemporary marketing, trendsetters can also be referred to as Innovators as they are the most receptive to new technologies and ideas. In most cases they have a taste and preference for upscale, niche products and services.

As the trendsetter segment does not provide a substantial scale of markets, a marketer should address another segment called value-seekers. The value-seeker segment is compared to emotional trendsetters, a more rational segment that seeks good value

for their money. To target value-seekers the product or service needs to be affordable and also compel to their practical needs by being durable and functional. Therefore, the product or service should provide more value with less impact on the environment. While trendsetters prefer upscale products and services and, value-seekers like practical, standard matchers on the other hand is the most conservative group. Standard matchers prefer products that are standard and popular among the mass markets. For example the green building standards have been a growing phenomenon in the U.K and US mass markets after the governments standardized it. Standard matchers often need an official affirmation to encourage their buying behaviour towards green products or services. The last group according to Kotler (et al 2010: 165) is cautious-buyers. Cautious-buyers is the most sceptical and least favourable towards green marketing. The cautious-buyers segment simply is too costly to convert by a green marketer and therefore should be ignored. (Kotler et al 2010: 161-165)

In order for a green product to reach maturity stage it needs to “be escorted” along the Market Segment Influence Chain (see Figure 2.3) (Kotler, 2012: 165). To begin a company needs to find their differentiating factor, here green. As hype has passed with the trendsetter the product moves along to the value-seekers. As the product matures, a new form of differentiation is created to attract the standard-matchers.



Figure 2.3 The Market Segment Influence Chain

Since green marketing has become mainstream it is necessary to look forward for altering methods to differentiate an offering and also to anticipate alternative ways for valuing products or services. The research will further take a look at the rising trends in marketing and how economies are naturally shifting towards a more sustainable way as economies are widely adopting service economies and driving away from consumption. According to Prahalad & Ramaswamy (2004: 6) the economies are slowly abandoning the “Value Chain” thinking where value is created inside the

company and value is created in the use of the service, thus value being individual to each customer.

2.4 Marketing 3.0

Marketing has gone through an evolution through three stages that can be identified as Marketing 1.0, 2.0 and 3.0. Marketing has evolved from product-centric (Marketing 1.0) to customer-centric (Marketing 2.0) all the way to human-centric (Marketing 3.0). The product-centric era favoured standardised and mass marketed products that benefited from economies of scale. (Kotler et al 2010: 3) As an early example of product-centric is the Ford Model T; a car that was mass-produced without colour variation. During the customer-centric era, innovations such as information technology (ICT) and the Internet assisted companies with gaining access to their customers, thus being better capable of tailoring to their customers' needs. Another implication of ICT was improved customer-access to companies' product information and ability to benchmark competing products based. Competition flourished from customer-centric era onwards. (Kotler et al 2010: 5) Marketing evolved due to changes in the markets and further advancements of technology. Today companies not only face the complexity of communication in addition to proving product that come with benefits (Tantawi, 2009: 5) but they also need to involve consumers and let them co-create. (Kotler et al 2010: 32) Co-creation challenges the traditional view of markets as a place for firms to trade and exchange goods and services with the consumers (Prahalad & Ramaswamy, 2004: 6). In traditional markets, firms also act individually to design and create products. Companies must escape the firm-centric view and seek for personalized interaction with the consumers. (Prahalad & Ramaswamy, 2004: 7)

As customer-access to information enhanced and awareness of societal and global problems increased, companies needed to find resolutions to address consumers' needs to contribute to these problems. Customers increasingly felt that they needed to be part of a community. A phenomenon that advanced this shift in conscious thinking was the birth of social media tools. New wave technology enables customers and companies to be more connected and to interact with each other. A shift has taken place from one-to-one marketing (Marketing 2.0) to group-to-group marketing (Marketing 3.0) through the use of social media and this also turned individuals from customers to prosumers; active participants. The chairman of Sun Microsystems, Scott McNealy, call this an era of participation. (Kotler et al 2010: 5-7)

The following states how information technology has advanced the opportunities to co-create (Lusch, 2011):

1. Goods and services can take advantage of microprocessors and other forms of intelligence. Thus knowledge can be shared worldwide and designing can be done through virtual modelling.
2. The possibilities of self-servicing have become common.
3. Ability to serve others rises.
4. Ability to communicate increases and therefore need to transport decreases.
5. Ability to communicate rises and therefore ability to learn about ones customers and supplies rises and one has better chances of communicating with them.
6. Communication possibilities increase the coordination between firms.

2.5 From Products to Services

One ideology behind green marketing is to shift away from consumerism or at least finding sustainable, thus better ways to consume. In his book, "From Products to Services", Young (2008) discusses how companies that have embraced the service industry have meanwhile contributed to environmental causes (e.g. global warming) by adopting practices of green marketing. The service industry in general uses less material and is no longer seen as a cost for companies. Being associated with repair and support of the equipment bought, it was seen in negative light. Many companies such as Tesco and Wal-Mart have added services to their retail business by offering insurances and money services. The reason companies have begun to approach the service economy is due to the rise in dominance of the most developed countries and the steady decline of the manufacturing sector as a percentage of the Gross Domestic Product (GDP). For example in year 2008, manufacturing in the United States counted for only 13% of the GDP, when in year 1970 it was 26%. The service sector covered around 75% of the GDP, depending on definition of service. (Young, 2008) Developing countries will face the same pressure towards service economies as it has been proved that there is a correlation between the nation's GDP and employment in the service sector. For example, the Four Asian Tigers: Taiwan, Singapore, Hong Kong and South Korea have already made their move towards services. (Young, 2008)

Lusch (2011: 14) supports Young's arguments by introducing the logics of goods-dominance and service-dominance. The goods-dominant logic relies on the value

created in the economic exchange - when the product is sold. This view suggests that the firm autonomously creates the value for its product or service. (Lusch, 2011: 15) The principle of supply and demand has long been the bedrock of value creation process in the goods dominant logic as firms create the value themselves separate from the markets. In this case the firm finds it important that their supply matches the demand level of the customers. By creating a variety of offerings, by efficiently delivering or servicing or by customizing their offering, companies attempt to extract additional value from their offerings. (Prahalad & Ramaswamy, 2004)

Service-dominant logic on the contrary does not ignore the fact that value created on the exchange is important for the firms' survival and growth, but most importantly it focuses on "value in use". Special attention is paid to the value that is being co-created in use with the client, where the value is obtained by using an offering and integrating it with other available resources. According to the foundational premises, the customer is always part of the co-creation. Firms are only making premises for value creation and only the user can determine the value. (Lusch, 2011: 15) Since millions of consumers have their own context and seek for different interactions through co-creation, the uniqueness of the service is inadequate and, therefore, the value co-created is individual and only meaningful to an identified customer. (Prahalad & Ramaswamy, 2004) This offers new business opportunities for companies as they not only need to be consistent with the quality of their service but also should be consistent in offering their customers an infrastructure of interaction between the customer and the company. (Lusch, 2011: 15)

With consumers owning products such as cars, they run the costs of maintenance and fuel, drive short ways to work and back, let their car stand on the drive way over night unused. As they drive they emit enormous quantities of CO₂ emissions to the air and play a part in the climate change. This way of using resources makes the current standards of living highly unethical.

As a consequence of all these considerations it can be suggested that the adoption of "value in use" as a central pillar of marketing is the most logical development towards a Sustainable Marketing paradigm. (Catulli, no date) Although some studies suggest that people use a product less when it is shared, leaser or rented, there has been

scepticism by some parties, who claim that people are not in the possibility of even owning these products such as air planes and thus lead into situations where products are in even more frequent use (e.g. increase in air traffic) (Schmidt, 2001). Therefore it needs to be considered that the sharing scheme will lead to actual results (e.g. lower levels of ownership) and this way result in more sustainable behaviour.

2.6 From products to experiences and solutions – collaborative marketing

Prahalad & Krishnan (2008) rather refers to co-creation as creating experiences and solutions rather than services. Collaborative marketing encourages companies to use the IT innovations currently available to co-create, network and collaborate with all stakeholder, now all referred to as customers. It is believed that every single firm is gradually shifting towards the innovation of the co-creation model. They highlight the importance of an individual customer by introducing a formula of $N = 1$ (one customer experience at a time) and no firm is capable of serving individual customer by themselves but they need a global network of suppliers. Therefore $R = G$ (Resources become global). (Prahalad & Krishnan, 2008)

A fundamental change in collaborative marketing is the increasing role of social and technological aspects. IT was the cornerstone of the beginning of co-creation as it introduced customers to limitless amounts of information and made customers aware and curious about different goods and services. Many of the past examples of co-creation have included a social aspect as they have brought people together and encouraged open discussion. Moreover the $N = 1$ model does suggest that products should be individually tailored according to customers needs and wants, which brings in the social aspect, as customers are not only seen as individuals but human beings. Managers fear that the model of personalized experiences would raise the cost of production rather than make the production more efficient. Efficiency increase is apparent in the example of ING, a global financing institution, which together with IT-house Unisys, created an IT-system, which is capable of processing individual buying patterns and determining individual risks and prices and sending the information in real time back to the system user. With the IT-system ING has been able to reduce its processing time from 30 days to 10 days and now has a more satisfied customer base. The amount of ING's customers has increased by 500 per cent. In ING's case the

marginal cost of production has decreased and profits by each worker has increased as well. (Prahalad & Krishnan, 2008)

2.7 Product Service Systems (PSS)

Today's societies have reached a point where they are running short of resources, thus new sustainable models of collaborative consumption are created to provide access to products whenever we need them (Woodruff, 2011). In addition to the aims of reducing consumption, companies are adopting new strategies to differentiate themselves in the ever-growing green business. One alternative emerging business model is selling a service provided by a product. (Ottman, 2011) Companies such as City Car Share in San Francisco and Mobility in Switzerland have adopted a business-model which "servitizes" (Baines et al 2007: 1) a product. The known theory behind this is called Product Service System (PSS) and it is mainly covering niche markets, but it offers a potential to reach a broader scope as a sustainable solution. The concept is growingly being adopted among new businesses that drive towards a more sustainable business practices.

The PSS was first introduced in the 1980s when interest towards service economies was steadily rising (Catulli, no date: 1). PSS is defined as a

"System of products, services, supporting networks and infrastructure that is designed to be: competitive, satisfy customer needs and have a lower environmental impact than traditional business models" (Mont cited in Baines et al 2007: 3).

In PSS, value is created while in use as suggested in the service-dominant theory. Thus value is co-created with the customer as they use the product in their personal way. (Lusch, 2011:14) PSS is also often referred to as a concept of dematerialization, as it breaks the linkage between the physical materials needed to create and the user value (Baines et al 2007: 3), and PSS moreover encourages information to be shared between the customer and the service-provider in each stage of the service (Catulli, no date: 2). Thus making the service more responsive to wants and needs because of early involvement of users (Baines et al 2007: 6). With a car sharing PSS, the customer can for example decide when to use the service and when it is the most convenient for them and also to choose what type of car they need to use and for how long they need the car to be available. The product, in this case a car, is merely an appliance to

support the delivery of the service. The theory of PSS also suggests that the value creation of a product does not require ownership of a product. (Catulli, no date: 2)

By looking at the product through service lens, it can be said that if a product can be wholly or even partially delivered by service, it will significantly lower costs and environmental impact of the product. The model of PSS helps companies retain ownership of the materials and energy that is part of the designing and manufacturing the product and therefore makes them liable for the proper repairing, reusing, recycling and production. Also compared to consumers, companies are more liable to take care of their externalities by laws and regulations. (Ottman, 2011) All these aspects create the collected advantage of PSS, as consumers rarely can afford to care for the product like a company and as law does not require them to, they often neglect their responsibility. PSS also encourages manufacturing products that use the amount and type of material that is really needed, leading to dematerialization and improvements in product design (Catulli, no date: 3), potentially resulting in reductions of cost for the manufacturer and environmental impact (Baines et al 2007). PSS also discourages companies to produce products with planned obsolescence and also encourages them to reconsider the reuse of packaging and other materials. (Catulli, no date) The overall advantage to the customer is that they get to enjoy the product in the form that they need it and can forget all administrative obligations to a network of companies (Baines et al 2007: 7).

A PSS system is built and operated by a network of companies, rather than a single provider (Mont cited in Baines et al 2007: 3). Those take care of the maintenance, manufacturing and functionality of the Product Service System. Networking can be a constraint to the adoption of the system as some companies may find it difficult to co-operate tightly with other companies and even well operating companies can have difficulties in integrating their services within a network. Moreover, it puts pressure on the companies to establish stable and trusting relationships with the other providers. Another constraint can be the adoption of sophisticated ICT-technologies around the PSS. The City Car Share for example operates with an ICT provider to hold its sophisticated renting and car locating system online. As a result, another constraint can be the high entrance cost to the PSS, as starting such business required enormous start-up finances. (Catulli, no date: 4) As another barrier to entry academics point out

the required cultural shift in thinking that a need met can substitute owning a product. Those suggest that the concept is most readily accepted in communal societies (Baines et al 2007: 6).

3 Research Questions

Based on the literary review and the conducted research, green marketing itself did not offer a sufficient subject of research and therefore it will be abandoned as prima facie question. The research will be focused on more contemporary theories that suggest that the economy is moving towards services. While researching for the new business-model, Product Service Systems, a gap in the knowledge of ownership was found. It was unclear how people perceive the loss of ownership. This raises a potential to do research in either quantitative (e.g. a survey) or qualitative (e.g. a case study) manner. For this reason the research question was newly formulated to address the knowledge gap. The first research question was designed to investigate the consumers' attitudes towards the sharing or renting a given product versus owning it.

After receiving a contact from City Car Club, a second research question was formulated to find out how companies such as City Car Club address environmental issues and whether being green is part of their business strategy or is it only an advantage of its business-model. The questions were addressed in a form of a comparative case study research specified later in the methodology part of the research.

3.1 Research questions

1. What are the attitudes of consumers towards the sharing or renting of a given product as opposed to acquiring ownership of it?
2. Are environmental issues embedded in the strategy of a PSS company? Are those appropriately addressed according to the green marketing principles?

4 Methodology

4.1 Literary research

The literature used in this thesis was found through the Metropolia University of Applied Sciences' library. Due to the lack of books available on the topic, some of the books were ordered from Amazon US. The most prominently used databases were EBSCO and Google Scholar. The search words that were initially used were: green marketing, co-creation, PSS, sustainable marketing, collaborative consumerism and collaborative marketing. The articles that occurred led into further research on topics that were found important from the existing articles. Websites, such as company websites were investigated in search of the case study company. The companies were selected by identifying organizations that practiced combining products with a service.

4.2 Research methodology

Due to the descriptive nature of the research question it was decided to use a case company for the research to gain true insight in the processes of a PSS and it was decided to conduct a comparative case study. Choosing a case study is an appropriate method of research once one wants to get a deeper insight into events, relations and processes (Denscombe, 2000) As the aim of this research was to get insight into the processes of Product Service Systems, the case study method felt the most appropriate for this study. The comparative case study is qualitative in nature and according to Holme and Solvang (1997) it is the researchers understanding and interpretation that stands in the centre of this type of research.

4.3 Research problems

Concerning the case study research, it must be kept in mind that in order to be able to generalize the case, it must be described carefully since a particular case can only be generalized to a similar case rather than to a population of cases. (Gomm et al 2000) Therefore case study will be carefully introduced at the beginning of the research (see page 21).

While conducting the interview with City Car Club, a potential issue was raised. The company was sent the questions by email and this potentially led into result in answers that were rehearsed and potentially make the company look better than it actually was. On the other hand, if the interviewee did not know the answer to a particular

question he or she could come back to the question after searching for the information. Doing to interview by email could although potentially delay the research processing time. The research was conducted in the native language of the company, Finnish and the interview questions and answers were later translated into English. By translating the questions and interpreting the answers to English, there is a potential for a small errors. Also due to the nature of qualitative research, the research may be biased as the researchers own point of view and perspective might interrupt the objectivity of the research.

It is advisable to use several research methods, "mixed method design". It combines more than one method of research for a more holistic view of the research questions in hand. (Thomas, 2009) Due to lack of time for carrying out a survey and an interview, it was decided that merely an interview was conducted. For future research it would be relevant to conduct an additional research about how the society perceives the loss of ownership in a form of a questionnaire to reach a wider sample and therefore to be able to draw general conclusions from the results. The researcher also felt that the results to a questionnaire at this stage would have left little room for generalization due to hypothetically small sample. This would have been due to the fact that a convenience sample would have been used for access reasons.

4.4 Data collection

The author wanted to use a case example that in her opinion fit best to the description of Product Service System (PSS), described before in the Literary Review. It was also made sure that the company was willing, and available to answer the questions. Also the person contacted needed to be willing to answer the questions truthfully. A company called City Car Club, which is located in Helsinki, was chosen as the case study company and the CEO, Ilkka Tiainen, was found qualified to answer the interview questions. Due to the nature of the research questions the choice of research method as an interview came naturally. It felt to be the most time-effective way to reach a company in a rather short time span of the research. Also as the company was taking part into the interview in a voluntary basis, it was relevant to conduct the interview in the most convenient way for them. Interview questions were formulated in a way that they best provided insight of the company and into the strategies of CCC in addressing environmental issues. Questions created were seen to provide best responses in relation to the topics revised in the Literary Review.

5 Empirical Data

This chapter contains the empirical data collected through the interview. First the case will be presented with a brief background and then interview responses will be benchmarked with theory discussed in the literary review.

5.1 City Car Club

City Car Club (hereafter referred to as CCC) is a Helsinki based company that was first established in Finland in 1999. In May 2011, City Car Club was bought by a company called O₂ Media. The business-model of City Car Club is based on car sharing, which is a service that can be located somewhere in between ownership and renting of a car as renting is more regular and the CCC Product Service is covered with a monthly fee. The car-sharing concept of CCC is not an original version of such type of business model, but it is largely imitated from examples abroad. Companies such as Mobility Car Share in Switzerland and Zipcar in UK are good examples of the international success of the business idea. Because a product plays an important role in their service, CCC can be identified as following to the PSS model.

City Car Club owns several cars of different sizes around the Helsinki area in 110 different locations. By being a member of the club, one can rent a car by paying a monthly fee of 10 to 50 euros depending on the size of the car, plus an hourly rate of 10 euros (minimum rental time being 2 hours). The cars are accessible to the customers around the clock by using a mobile phone to operate a smart system installed to each car to open and close the doors.

In general, by using the car sharing model the company has discovered that one car can replace from 8 to 9 privately owned cars, which means less cars on the road and more efficiently used resources. As a result, one of CCC's future goals is to operate with 1000 cars that would substitute from 8000 up to 9000 cars in the Helsinki metropolitan area alone. The company is also looking at future possibilities to expand their business to other major cities in Finland, but thus far they have been focused solely on the Helsinki area.

By reducing the amount of cars on the road, the company believes that it is already contributing to the environmental protection. On top of the natural benefits of the business-model, the company is committed to reducing and compensating externalities of their business by currently doing further study on future consumption reduction possibilities.

5.2 RQ1: What are the attitudes of consumers towards the sharing or renting of a given product as opposed to acquiring ownership of it?

City Car Club (CCC) claims that the most important factors for its customer is the convenience of the service and by gaining this they are willing to give up the ownership of a car. The customers have discovered that by being irregular users of a car, they save the fixed cost (insurance, parking spot etc.) related to ownership of a car and they can enjoy the convenience of car transportation whenever they need it with a fraction of the costs. By saying this, CCC is confirming the previously stated claim that value creation does not require ownership, but convenience generates the needed value as opposed to a market transaction (see page 16).

Moreover the customer base of CCC mainly consists of city dwellers of different age and gender, who are accustomed with using public transportation, walk or bicycle around the city. Choosing City Car Club has not necessarily therefore been a matter of giving up a car because they have joined as a member. The rate of customers of CCC not owning a car pre-joining accounts around 60%. CCC claims that around 30% of their customers have although given up their car after joining and membership have prevented 20% of their carless customers from buying a car.

Cars, like airlines, are traditionally problematic when it comes to their environmentally friendliness. CCC's strategic move to adopt the practice of PPS; combining a product with a service has resulted in converting consumers from thinking the conventional way. In other words, the PSS model has prevented that the service benefits of CCC are more transparent and obvious to the consumers. In practice, CCC claims that because their product can substitute up to 9 owned cars, according to their calculations it can lead up to almost 400 000kg of reduced CO₂ emissions (see page 24). Ottman (2011) earlier discussed about green strategies and how the strategy of empowerment is challenging companies to not only produce functional products but also products that empower consumers and give them a feeling of contributing to something meaningful

in their life (see page 9). CCC believes that their strategy to retain transparency of their service has led to greater understanding of the PSS and moreover enhanced their customers' sense of co-creation and contribution to the climate change. The CEO of CCC believes that thanks to technological advancements their customers are educated enough to know that by denouncing themselves from the ownership of a car they are already making an environmental act.

However in the light of the previous empirical results, the case study of City Car Club is not a suitable source for a complete study on the attitudes of consumers on ownership and a further study should be conducted on this matter. There is a potential for a quantitative study with a large and diverse sample and it would be recommended to organize a qualitative focus group study before the quantitative research, to help formulate the research problem.

5.3 RQ2: Are environmental issues embedded in the strategy of a PSS company? Are those appropriately addressed according to the green marketing principles?

Unlike with most of the companies, City Car Club claims that promoting sensible transporting and sustainable use of cars has been the foundation of CCC since its inception. Thereafter CCC has worked to establish relationships with different parties that could potentially contribute to the collaborative aim of eliminating the externalities of the business. Some of them although being vital for the company's being and could be seen as entry requirements for a PSS. City Car Club addresses the primary fundamental problem of green marketing, problem of depletion of non-renewable resources and pollution, (see page 8) by claiming to compensate the levels of pollution of their service; although not specified how by CCC. In year 2011, CCC invested around 100 000 euros to new technologies, consumption compensation and travel optimization. This amount includes the investment that CCC has made into hybrid- and electric cars. Their exploitation of new technologies has proved to significantly reduce the use of non-renewable resources. Arguably the move towards electric-and hybrid-cars could be interpreted as a potential tactic to satisfy heightened customer expectations and not seen as an act of goodwill.

5.3.1 Savings of sharing compared to ownership

CCC calls the production-phase of a conventional car the most significant phase when it comes to the CO₂ emissions. CCC has calculated the reduction of CO₂ outflow of a

shared car compared to a privately owned car and has proved their business model to reduce CO₂ emissions significantly. The following formula has been used to calculate car-sharing savings on CO₂:

Production + (average CO₂ per kilometre x average mileage per year x life of a car in years) = CO₂ emissions of a car

5.3.1.1 Break-down of the calculations

CCC claims that the production of a car generates on average 6328kg of CO₂ gases, which accounts for the most significant contributor to the lifetime CO₂ emissions of their product. The current CO₂ emission limit for a new company car in Finland is 140g per kilometre (Trafi). The average car mileage is over 18 000 kilometres in one year and the average life of a car is 19 years (Autoliitto). In the light of these previous claims we can carry out the following calculation for the CO₂ emissions of a privately owned car by using the previously mentioned formula:

$$6328\text{kg} + (0,140 \times 18\,000 \times 19) = 54\,208\text{kg}$$

According to CCC their average customer has a mileage of 1074km per year and one car has around 20 active users. Based on these claims, we can calculate the average mileage of a shared car:

$$1074 \times 21\,480 = 21\,480\text{km}$$

This number represents the total mileage of a shared car over a year. While other values remaining the same, we can perform the CO₂ calculation for a shared car using the formula:

$$6328 + (0,140 \times 21\,480 \times 19) = 63\,464\text{kg}$$

As mentioned before, one CCC car substitutes 8 to 9 private cars and therefore to perform an accurate comparison we need to multiply the rate of a private car with 8:

$$54\,208\text{kg} \times 8 = 433\,664\text{kg}$$

By decreasing the rate of a shared car from this number we will receive the rate of saved CO₂ emissions of a shared car compared to an owned car:

$$433\,664\text{kg} - 63\,464\text{kg} = \underline{370\,200\text{kg}}$$

These calculations suggest that the savings in CO₂ emissions is a fundamental benefit of a car-sharing PPS rather than a result of City Car Club's own efforts in greening their business. Their interest towards hybrid- and electric-cars on the other hand shows their own initiative towards greening their business.

As Peattie and Crane (2009:189) pointed out in the early literary view, such marketing practices as greenspinning, green harvesting and green entrepreneurship have turned against the practitioners of such. For this reason City Car Club has adopted a strategy of not highlighting the greenness of its business model, but to focus on other advantages and benefits of the service that potentially could motivate and engage the users. The customers are said to be educated enough to understand the environmental effect of giving up the ownership of a car and by remaining transparency in their company CCC believes that it will help customers to understand the benefits to their lives. The CEO of CCC claims that other businesses such as airline companies have claimed themselves to be environmentally friendly, which has made it difficult for other companies to fight the claims of "greenwashing" (Belz & Peattie, 2009: 189), an activity of camouflaging selfish outcomes such as cost savings to environmental concern (Belz & Peattie, 2009: 189). CCC therefore focuses primarily on the accessibility and convenience of its service and secondarily on pricing. Environment friendliness of the service on the other hand is seen as an absolute value of the service and in light of the previous claims, not marketed. By promoting access, CCC also encourages co-creation with the customer. CCC does not necessarily offer the customers a forum to design, but they offer an access to a certain lifestyle through their service, which is a form of co-creating.

City Car Club has implemented technology to improve co-creation opportunities. Cars have been installed with a smart systems to allow members to access vehicles any given time, thus allowing them to self-service (see page 13). The smart system does

not only improve convenience of the service, but also allows CCC to gather valuable information about the usage of their products, thus leading to further improvements of their service.

5.3.2 Segmentation of City Car Club

Unlike Ottman (2011: 22) suggests, the customer base of CCC is not build from a majority of women but consist of a group of varied demographics. In the light of the green marketing segments discussed earlier in the literary review (see page 9), the customer base of CCC is currently covering two of the green marketing segments, trendsetters and value-seekers. (Kotler et al 2011: 161-164) CCC was first found by the trendsetters that seek for new innovative products and services to try on and are likely to create WOM. After the first adoption, the proportion of the former segment was reduced by the growth of value-seekers that still currently form the most evident segment for CCC. The group of value-seekers is motivated by the cost savings and the efficiency of the service compared to ownership. In relation to their strategy, this group seems to be an ideal segment, but it is not substantial large to keep the business running in the long run.



Figure 5.3.2 The Market Segment Influence Chain of CCC

Because CCC has not been able convert the standard-matchers along the Market Segment Influence Chain (see Figure 5.3.2), may suggests why CCC has been struggling with viability from the beginning. In other words, it has not yet been established by the broader audience and is purely currently covering a niche market. This makes it questionable whether the company was established without understanding the current needs of consumers and therefore falling under the claims of entrepreneur marketing (see page 7). In order to reach the standard-matchers, CCC would potentially have to establish a stronger presence through government standardization to convert the third segment, standard-matchers. A potential solution could be to strengthen CCC's current relationship with HSL by doing another marketing campaign together to raise awareness of the Product Service System. This could potentially be targetted to cover a larger segment than University students. Currently it

seems that the company is a long way from being standardized, as it appears to be rather unknown, at least among the researchers social circles.

The international examples and theories (Catulli, no date; Evans et al 2007) suggest that the foundation of PSS relies on:

“Solution-oriented partnership, which deliberately sets out to design, make and deliver solutions using multiple organizations, emphasizing the need for each actor to be actively involved in the design of the PSS and to create a solution which incentivizes all the organizations to improve economic, environmental and social performance of the system.” (Evans et al 2007: 4226)

Table 5.3.2 illustrates the Solution Map of City Car Club, which shows the main system elements and demonstrates structure of the organization in relation to its stakeholders. The table was created based on the empirical data collected from the interview with the CEO of CCC.

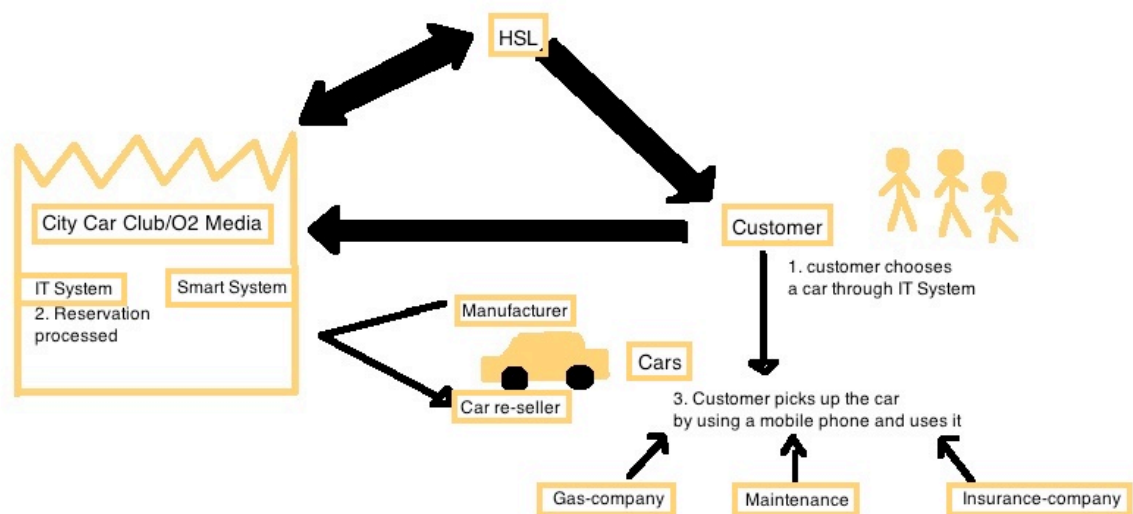


Table 5.3.2 The Solution Map of City Car Club

From the beginning of their concept, City Car Club’s collaboration with its partners begins with the purchase of a car, while CCC contacts with car manufacturers and car retailers. While cars are in use, CCC collaborates with car inspection companies, maintenance, insurance and gas-companies to provide a consistent quality of its service. These collaborative relationships although are the entry requirements for a viable PSS company in the car industry.

City Car Club teamed up with Helsingin Seudun Liikenne (HSL - Helsinki regional transportation provider) couple of years back to establish permanent parking spots on the roads for CCC cars and together they help to promote the usage of each others services; HSL and CCC have established some form of sponsorship as current owners of a valid HSL-card get a 10% discount from CCC services. The team recently continued with a common marketing campaign called Viisaan liikkumisen lähettiläs. The aim of the campaign is to promote sustainable transportation methods among students. In the spring of 2012, the campaign was particularly aimed to target the students of University of Helsinki city centre campuses and Metropolia Arabia campus.

City Car Club has not yet established responsible disposal methods, but each car is sold forward to car resellers, thus outsourcing the liabilities for the end-of-life-cycle disposal of their cars. This may be in contradiction with their previous claims on compensating for their externalities.

City Car Club addresses collaborative marketing by combining their forces with O₂ Media (Prahalad & Krishnan, 2008; Kotler et al 2010: 5). The combined tale of CCC and O₂ Media began with a concept of utilizing the CCC owned cars as creative canvases for the customer advertisements of O₂ Media. An idea to rent out the cars with only 10 euros per day came from somewhere in southern Europe. While advertising agencies got an inexpensive moving billboard for advertisements, the city-dwellers got to explore the city for a bargain price.

5.3.3 Elements of Green Marketing Strategy

Convenience, one of the key elements of green marketing strategy (see page 9) has been implemented by making their service adjustable based on their primary customers location. In co-operation with HSL, CCC has been able to negotiate 110 exclusive parking spots around Helsinki, which is a greater number than they currently have cars available. This strategy enables them to move the cars to those spots with the greatest demand and avoiding situations where some cars are located in an unfavourable location. As a result, the customer receives a better service as cars are always conveniently located and CCC cars are most efficiently used. The customer only receives the image that cars are always optimally conveniently located and not the fact that there is actually less cars, a detail that is fact irrelevant for the customer of CCC. As long as the service works, how it works is not particularly interesting to the

customer (Belz & Peattie 2009:227). Although, CCC has addressed the issue of accessibility of their service in a thoughtful and efficient way, it can still be questionable how car pre-owning households see the service compared to having their own car in light of convenience.

The former matter brings us to the second key element of green marketing strategy, affordability. Although the majority households with a car might see borrowing as less convenient, CCC engages its customers by offering three different cost schemes to fit to budgets of different sizes. Moreover this type of service portfolio engages households of different sizes in addition to covering various types of needs. The schemes differ in the size of the car and additionally students are targeted with a discounted cost scheme and companies have their own as well. CCC's primary customer base consisting of house holds without cars, car sharing is seen as a more affordable solution compared to owning a car when the average mileage of a customer is 1074km. CCC believes that for its excising customers more important than price is the availability of cars whenever they are needed.

The final key element, quality, can also be seen as the mirror of the two former elements. As how customers see the quality of the service relates on how they perceive the accessibility to the price of the service. But in addition, quality relates to the condition of CCC's product as part of their PPS - the cars. To maintain working condition of their products, CCC has outsourced maintenance. Although CCC claims as one of its main principles being the consistent quality of its service, it might be questionable whether collaborative consumption forces to make sacrifices on certain level of quality. We are now in particular talking about sacrificing the cleanliness of the product while the customer is collecting it. The customer might be accustomed with the level of quality they get from a conventional rental company that takes care of cleaning the car after each customer. But because CCC cars are often used by different users several times per day, it makes cleaning in between use impossible. This is why a PSS should always give an accurate picture of the quality of the product-service to avoid a gap between customer expectations and reality.

6 Findings and recommendations

6.1 RQ1: What are the attitudes of consumers towards the sharing or renting of a given product as opposed to acquiring ownership of it?

Based on the interview conducted with the CEO of City Car Club and after analysing the results, it can be concluded that the PSS business model improved customers' impression on renting as the benefits of the service, environmental and cost savings, were apparent and transparent in comparison to owning a car. On the other hand, the CEO of City Car Club believed that customers value convenience and affordability over environmental benefits, which were used as the base for differentiation. The case study of CCC showed little evidence of converting consumers from ownership as their customer base consists by 60% of households that do not previously own a car and conversion rate was only 30% of the remaining 40%.

Due to the small sample of the City Car Club customer base, this study did not offer a subsequent research base and therefore it is recommended to do further study on the subject of ownership.

6.2 RQ2: Are environmental issues embedded in the strategy of a PSS company? Are those appropriately addressed according to the green marketing principles?

As found in the Literary Review, green marketing has become mainstream and therefore CCC finds it unwise to market environmentally friendliness, but to differentiate by their other assets and thus differentiating by engaging customers through value in use. Although CCC claims that it is not promoting greenness to its customers, it still believes that the transparency of their fundamental service benefits help the customers to understand the difference between ownership and by using a service.

Based on the results, City Car Club is relying on the fundamental greenness of their business concept to empower customers. Advantages were proved by the calculation resulting savings of nearly 400 000kg of CO₂ emissions with a shared car compared to an owned car. Until today, City Car Club has taken environmental aspects into consideration to a certain point, but they have currently not followed the examples of foreign PSS companies by making their product the most efficient, maintaining, using proper disposal and updating their product, thus eliminating lifetime externalities of

their product. The results from CCC showed that the production-phase was believed to be the most consumptive phase from their point of view, which does indicate that they do believe that they are currently doing what they can to reduce their consumption as production is outsourced. The established relationships with supporting parties can be identified as entry requirements for a PSS. On the other hand, City Car Club is looking into possibilities of improving their product lifecycle in the future, by currently calculating the total costs of oil changes, tires and other maintenance fees, thus cutting back CO₂ emissions of the system in the future. The previous indicates that there are improvements to be made.

Although City Car Club has embedded the green marketing key elements; convenience, affordability and quality as part of their business strategy, only the segments of trendsetters and value-seekers are covered and also doubts about entrepreneurial marketing was raised. CCC has not been able to establish itself to the mass markets. The green segmentation theory therefore suggests that in order for them to go mass market a stronger standardization needs to be established, potentially through further co-operation with HSL.

7 Conclusion

The results showed that PSS companies should highlight their other assets such as quality and aim at creating value with their customer in use, and thus create differentiated and individual experiences to serve heightened customers expectations of co-creation. Furthermore, the findings show that customers valued access and affordability over the green benefits that were already seen the fundamental benefit of a car sharing PSS. CCC has not been able to pull out of the niche markets and our findings suggest that they should thus seek for standardization through credible sources.

As discussed before, our primary research question on loss of ownership and how customers perceive it should be addressed with a bigger sample and therefore presents an implication for further research. Further research could also be made on strategies in standardizing City Car Club or any other PSS. Also due to the appeared findings on cleanliness of a PSS and more accurately the lack of it, could suggest further study on customers' willingness and readiness to bargain on quality such as cleanliness of a PSS for affordability and access. In the later stages of the research the researcher found that other forms of collaborative consumption were expected to rise in coming years - particularly a shift from B to C to peer to peer was visible, which introduces an intriguing future research topic.

It was found problematic that the company that agreed to be part of a thesis did not carry out their responsibility in returning with answers to additional questions asked unlike agreed upon. Therefore the research was solely conducted based on the empirical data collected on the first round of questions. Due to this the researcher was unable to bring the findings of the research to a desired level of depth. Despite the fact, the researcher was able to gain intended insight into PSS during the research and motivation towards further research was lifted.

8 References

8.1 Books

Belz, F-M. and Peattie, K., 2009. *Sustainability Marketing: A Global Perspective*. John Wiley & Sons Ltd.

Denscombe, M., 2000. *The Good Research Guide for Small-Scale Social Research Projects*. Buckingham: Open University Press.

Gomm, R, Hammersley, M. and Foster, P. (eds), 2000. *Case Study Method*. London: Sage.

Holme, I. M. and Solvang, B. K., 1997. *Forskningsmetodik, Om kvalitativa och kvantitativa metoder*. (2nd edition). Sweden, Lund: Studentlitteratur.

Kotler, P., Kartajaya, H. and Setiawan, I., 2010. *Marketing 3.0: From products to customer to human spirit*. John Wiley & Sons Ltd.

Ottman, J.A., 2011. *The New Rules of Green Marketing – Strategies, Tools and inspirations for Sustainable Branding*. Greenleaf Publishing Limited.

Prahalad, C.K. and Ramaswamy, V., 2004. *The Future of Competition: Co-creating unique value with customers*. Harvard Business School Press.

Prahalad, C.K. and Krishnan, M.S., 2008. *Innovaation uusi aika*. Translated from English by Maarit Tillman. 2011. Tietosanoma Oy.

Thomas, G., 2009. *How to do your Research Project: A Guide for Students in Education and Applied Social Sciences*. University of Birmingham. Sage Publications Ltd.

8.2 Articles

Baines, T.S., Lightfoot, H., Steve, E., Neely, A., Greenough, R., Peppard, J., Roy, R., Shehab, E., Braganza, A., Tiwari, A., Alcock, J., Angus, J., Bastl, M., Cousens, A., Irving, P., Johanson, M., Kingston, J., Lockett, H., Martinez, V., Michele, P., Tranfield, D., Walton, I. and Wilson, H., 2007. *State-of-the-art in product service-systems*. Journal of Engineering Manufacture. Proc. IMechE Vol. 221 Part B.

Charter, M. and Polonsky, M.J., 1999. *Green Marketing: A Global Perspective on Green Marketing Practices*. Greenleaf Publications, Sheffield.

Catulli, M., no date. *Changing the Rules of the Marketing Game*. University of Hertfordshire, UK. pp. 1-9.

Edwards, A.R., 2010. *The Sustainability Revolution: portrait of a paradigm shift*. New Society Publishers, Canada.

Evans, S., Partidário, P.J. and Lambert, J., 2007. '*Industrialization as a key element of sustainable product-service solutions*'. International Journal of Production Research, Vol.45 No.18, pp. 4225-4246.

Lusch, R.F., 2011. *Reframing supply chain management: a service-dominant logic perspective*. Journal of Supply Chain Management. Vol.47 No.1, pp. 14-8.

Mont, O.K., 2001. *Clarifying the concept of product service system*. Journal of Cleaner Production, No. 10 pp. 237-245.

Peattie, K. and Crane, A., 2005. *Green marketing: legend, myth, farce or prophesy?*. Qualitative Market Research, Vol. 8 No. 4, pp. 357-370.

Schmidt, W.P., 2001. *Corporate Environmental Strategy*. Vol. 8, No. 2 Elsevier Science Inc.

Rex, E. and Baumann, H., 2007. *Beyond ecolabels: what green marketing can learn from conventional marketing*. Journal of Cleaner Production. No.15 pp. 567-576.

Roberts, C. and Alpert, F., 2010. *Total customer engagement: designing and aligning key strategic elements to achieve growth*. Journal of Product & Brand Management, Vol.19 No.3, pp.198–209.

Tantawi, P., O'Shaughnessy, N., Gad, K. and Abdel Salam Ragheb, M., 2009. *Green Consciousness of Consumers in a Developing Country: A Study of Egyptian Consumers*. Contemporary Management Research. Vol. 5, No. 1. pp. 29-50, March 2009.

Woodruff, R.B., 1997. *Customer Value: The Next Source for Competitive Advantage*. Journal of the Academy of Marketing Science. No. 25 Vol.2 pp. 139-153.

8.3 Websites

City Car Club, 2012. Company Website. [Online] Available at:
<<http://www.citycarclub.fi/>> [Accessed 24 February 2012]

Keen, A., 2011. *Why The Collaborative Consumption Revolution Might Be As Significant As The Industrial Revolution*. [Online] Available at:
<<http://techcrunch.com/2011/11/14/why-the-collaborative-consumption-revolution-might-be-as-significant-as-the-industrial-revolution-tctv/>> [Accessed 13 April 2012]

Trafi: The Finnish Traffic Safety Bureau., 2012. *Hiilidioksidipäästöt vaikuttavat työsuhteautojen valintaan*. [Online] Available at:
<http://www.trafi.fi/tietoa_trafista/ajankohtaista/1704/hiilidioksidipaastot_vaikuttavat_tyosuhteautojen_valintaan> [Accessed 16 April 2012]

Autoliitto: Car Union of Finland., 2010. *Merkittävälle osalle dieselautoilijoista tulossa lisää kustannuksia 2012*. [Online] Available at:
<<http://www.autoliitto.fi/?x20043=4288972>> [Accessed 16 April 2012]

8.4 Interviews

Ilkka Tiainen; CEO of City Car Club/o2 Media. Interview questions sent 23 March 2012.

9 Appendix I

Interview Questions for City Car Club

Company and product

1. Could you shortly describe your business?
2. How long have you been operating in Finland?
3. How did you come across with the concept of City Car Club?
4. How does your company take in consideration the environment?
5. Has this way of thinking been part of the business from the beginning or has it become a part in a later stage?
6. Describe how your business model and your product conserves the environment?
7. Because your product is traditionally problematic when it comes to environmentally friendliness (cars are exhaustible), do you therefore feel that the Product Service Systems business model has improved the way consumers perceive your product?
8. How would you describe the competitors of City Car Club?
9. Do you find it more important that the product is environmentally friendly in the use or that the product is got rid off or recycled the right way?
10. Do you co-operate with environmental organisations or other similar organisations?
11. I read online that you co-operate with HSL (Helsinki regional transportation organisation), what does the co-operation practically means?
12. Do you co-operate with parties concerning the disposing or maintaining the cars?

Customer

1. How would you describe the profile of your customer base?
2. How do you feel that the consumers perceive the borrowing instead of owning?
3. How important is the environmentally friendliness to your customers?
4. Do you market the green aspects of your service to the consumers (or do you rather focus on the other aspects such as the accessibility or convenience of use)?
5. Is the aim of your marketing to create a perception of environmentally friendliness ("greenness")?

Strategy

1. How does the environment affect your strategic planning?
2. Have you invested into the environmentally friendliness of your service?
3. Is your product traceable by competitors?
4. Is your business-model traceable by competitors?
5. Would you say that your company is operating above the minimum environmental requirements?

If the answer to question 5 is yes:

- a. Has this been an advantage for your company?
- b. Do you believe that this has improved you image in front of the customers and the society?